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intervening claims; and Claims 7-13 have been indicated to be allowed. Applicants respectfully request favorable reconsideration of the subject application, particularly in view of the following remarks.

Before proceeding further, Applicants wish to express their appreciation to the Examiner for his time and helpful comments regarding the current Office Action provided during the course of the telephone interview conducted with the undersigned on 14 March 2005.

The invention claimed by Applicants is a method and device for determining release rates of volatile contaminants from soils. The device comprises a transparent reactor vessel comprising *sealable* means for introducing at least one volatile liquid sample into the transparent reactor vessel, at least one sorbent contained within the transparent reactor vessel, and *separation means for preventing direct contact between the at least one sorbent and any soil/NAPL complex present in the transparent reactor vessel*. The separation means permit passage of solvent soluble constituents of the volatile liquid sample to be sorbed by the at least one sorbent. As described beginning at Page 6, line 21 of the specification of the subject application, the apparatus *as claimed* enables contacting soil with a liquid so as to maintain *a gas headspace volume equivalent to virtually zero percent of the total contents of the reactor vessel* and for employing a sorptive resin for measurement of

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the contaminant releases from the soil into the liquid phase, e.g. water, of the reactor vessel without direct contact of the resin with the soil solids. For the reasons set forth herein below, Applicants respectfully urge that the invention claimed by Applicants is neither taught nor suggested by the prior art relied upon by the Examiner for rejection of the subject application.

Claims 1 and 4 have been rejected under 35 U.S.C. 102(b) as being anticipated by Davison et al., U.S. Patent 5,922,974 (hereinafter "the Davison et al. patent"). This rejection is respectfully traversed. The Davison et al. patent teaches a method and apparatus for collecting and analyzing particular soil gases which accumulate in the soil *in the ground* above a subterranean deposit of oil and/or natural gas. The apparatus includes a probe 5 having a point 7, attached to which is a slotted hollow tube 9 having a plurality of vents or apertures through which gases emanating from the adjacent soil 10 may enter the hollow interior of the tube. The tube 9 is connected with a gas-conducting adapter 12 by means of a rigid tubular driving shaft 14 (Col. 1, lines 55-66). The soil gases that enter the interior of the adapter 12 are conducted to a collecting and concentrating device 25 (Col. 2, lines 17-18). The gas collector comprises a glass tube 27 which houses a plurality of different granular materials packed in series, each of which acts as a molecular sieve for the different gases which may be of interest in determining the characteristics of a hydrocarbon

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deposit possibly positioned below the location of interest (Col. 2, lines 45-59). *Gas permeable* glass fritts 30 and 31 act as *end retainers to keep the molecular sieves within the glass tube* and *gas permeable barriers* 38 separate each of the different granular materials disposed within the glass tube.

The Examiner argues that the glass tube 27 of the Davison et al. patent corresponds to the transparent vessel of Applicants' claimed invention, that the molecular sieve resin material, e.g. carbosphere 33, for sorbing or trapping soil gas molecules corresponds to the at least one sorbent of Applicants' claimed invention, and that the gas permeable barriers correspond to the separation means for preventing direct contact between the at least one sorbent and any soil/NAPL complex present in the transparent reactor vessel of Applicants' claimed invention. During the course of the telephone interview with the Examiner by the undersigned, the Examiner indicated that the *sealable* means for introducing at least one volatile liquid sample into the transparent reactor vessel as claimed by Applicants is anticipated by the gas permeable glass fritts 30 and 31 of the Davison et al. patent because they act "to seal" the carbon molecular sieve material within the glass tube while permitting the flow of sample gas through the tube 27. That is, the Examiner takes the position that the term "sealable" can mean only partially sealed, i.e. sealed with respect to certain elements, i.e. molecular sieve material, and not to other materials, i.e. volatile liquid

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samples. Applicants respectfully urge that such an interpretation of the term “sealable” is inconsistent with the rules for properly determining the meaning of the claims as well as the meaning of limitations within the claims and the interpretation to be given to means-plus-function language in the claims. Indeed, Applicants respectfully urge that if the term “sealable” is to be given the interpretation set forth by the Examiner, then the invention claimed by Applicants would be inoperable. The Examiner has not indicated that the claimed invention is in any way inoperable; thus, the presumption must be that the invention is operable and, as described in the specification of the subject application, operability requires the ability to fill the reactor vessel to a condition of substantially zero headspace, a condition which is not possible if the reactor vessel is not fully sealed. Operability further requires the complete isolation of the sample undergoing analysis so as to be able to determine the percentage of the sample which is contaminated with volatile liquids. In the absence of such isolation, a portion of the volatile liquid sample may escape from the reactor vessel, thereby precluding an accurate determination of the level of contamination. In the apparatus of the Davison et al. patent, the gas permeable glass fritts permit the flow of gases in and out of the glass tube.

In interpreting claims, Applicants’ disclosure must be relied upon by the Examiner to properly determine the meaning of the claims. *Markman v. Westview*

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*Instruments*, 52 F.3d 967, 980. 34 USPQ2d 1321, 1330 (Fed. Cir.) (*en banc*), *aff'd*, U.S. 116 S. Ct. 1384 (1996). The meaning of words used in a claim is not construed in a “lexicographic vacuum, but in the context of the specification and drawings.” Accordingly, Applicants respectfully urge that, within the context of the invention as described in the subject application, the term “sealable” cannot be interpreted to mean sealing of only certain elements and not other elements as asserted by the Examiner.

Example 2 of the subject application describes the processing of two liquid containing soil samples in the apparatus of the invention claimed by Applicants, which apparatus is described as being a zero headspace unit, that is a unit in which the gas headspace volume in the unit is substantially zero as discussed at Page 6, line 21 to Page 7, line 11 of the subject application. The structure of the apparatus *as claimed*, which includes *sealable* means for introducing at least one volatile liquid sample into the reactor vessel, is operable in this fashion. Thus, it is clear from the description of Applicants’ claimed invention that the term “sealable” refers to a structural feature which provides a closed system in which all of the materials within the reactor vessel are sealed therein. The results of example 2 are presented as mg/l of contaminant within the sample. In contrast thereto, the apparatus of the Davison et al. patent is not capable of quantifying the amount of gases within a soil sample, but rather is only capable of determining the presence of gases within soil disposed in the

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ground (Abstract). This is, in part, because the glass tube 27 of the Davison et al. patent is not sealable with respect to the gases flowing therethrough.

As stated by the Examiner, to be patentable, apparatus claims must be structurally distinguishable from the prior art in terms of structure and not merely functional. Thus, the manner of operating the apparatus does not differentiate an apparatus claim from the prior art if the prior art apparatus teaches all of the structural limitations of the claim. Applicants are in full agreement with this premise, but are uncertain as to how this premise is being applied by the Examiner in the instant case. Applicants respectfully urge that each of the elements of Claim 1, for example, correspond to a structural feature of the apparatus of the invention claimed by Applicants. For example, the *sealable* means for introducing one or more volatile liquid samples into the vessel in accordance with one embodiment of the claimed invention is a septum as recited, for example, in Claim 6. The septum is adapted to receive a syringe for adding and removing volatile liquid samples from the reactor vessel. Thus, when the syringe is withdrawn from the septum, the volatile liquid samples are *sealed* within the transparent reactor vessel.

MPEP § 2131 indicates that, to anticipate a claim, the cited reference must teach every element of the claim. This section also states “The *identical* (emphasis added) invention must be shown in as complete detail as is contained in the

...claim.” Thus, although the reference need not teach actual operation of the described apparatus or the ability to operate the described apparatus as Applicants’ claimed invention is operated, Applicants respectfully urge that the apparatus of the prior art must have the structural features which would enable it to be operated in accordance with the operation of Applicants’ claimed invention. Thus, if the apparatus of the prior art is not capable of being operated in the manner of Applicants’ claimed invention, then the apparatus of the prior art *is not identical* to the invention claimed by Applicants and, thus, Applicants’ claimed invention is structurally distinguishable over the apparatus of the prior art.

Accordingly, Applicants respectfully urge that *the Davison et al. patent neither teaches nor suggests a transparent reactor vessel having a sealable structure as required by Applicants’ claimed invention*. As discussed at Col. 2, lines 40-45 of the Davison et al. patent, a gas collector and concentrator 25 constitutes a portion of the gas flow path of the Davison et al. apparatus, and, as described at Col. 2, lines 46-48, the glass tube 27 is one element of the gas collector and concentrator. In operation, the gases of interest are drawn into the gas collector and concentrator by a vacuum pump 23 (Col. 2, lines 36-40). It is apparent that, to maintain gas flow to the vacuum pump during the sample collection process, that is, the portion of the operation in which the sample is introduced into the glass tube, both ends of the glass

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tube must be open, i.e. not sealable. After sampling is complete, the vacuum pump is shut off, i.e. no sample is being introduced into the gas sample collector, and the gas sample collector, including the glass tube, is disconnected from the system. The collector is then capped and taken to the lab for thermal desorption (Col. 3, line 49 to Col. 4, line 4). Once the collector is capped, it is no longer possible to introduce sample into the collector. Thus, while the caps may constitute a *sealable means*, they do not constitute a means by which the sample of interest can be introduced into the collector. That is, in contrast to the invention claimed by Applicants in which the sealable means enable introduction of at least one volatile liquid sample into the transparent reactor vessel, the caps employed in the Davison et al. patent preclude any possibility of introducing a sample into the glass tube. Thus, Applicants respectfully urge that the invention claimed by Applicants comprises at least one structural feature neither taught nor suggested by the Davison et al. patent. Accordingly, Applicants respectfully urge that the Davison et al. patent neither teaches nor suggests the invention claimed by Applicants in the manner required by 35 U.S.C. 102(b).

### **Conclusion**

Applicants intend to be fully responsive to the outstanding Office Action. If the Examiner detects any issue which the Examiner believes Applicants